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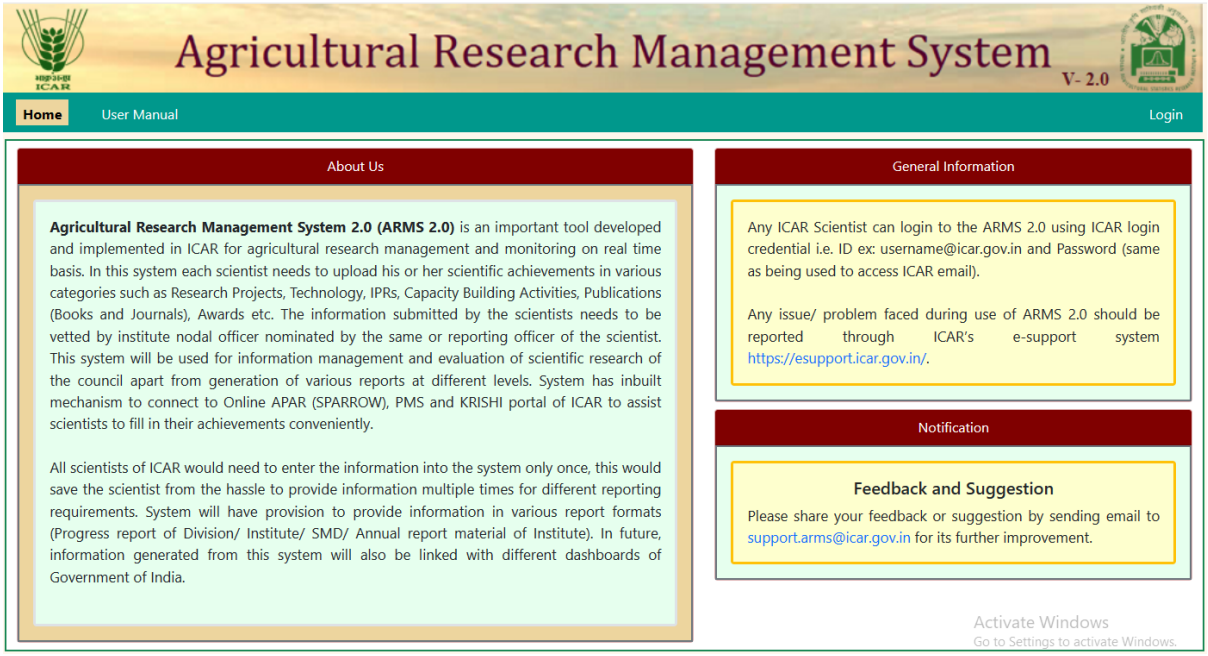
1. Introduction (ARMS 2.0)

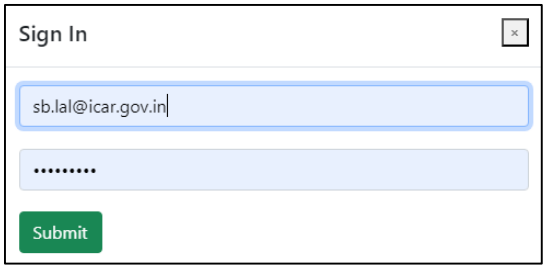


Agricultural Research Management System 2.0 (ARMS 2.0) is an important tool developed and implemented in ICAR for agricultural research management and monitoring on real time basis. In this system each scientist needs to upload his or her scientific achievements in various categories such as Research Projects, Technology, IPRs, Capacity Building Activities, Publications (Books and Journals), Awards etc. The information submitted by the scientists needs to be vetted by institute nodal officer nominated by the same or reporting officer of the scientist. This system will be used for information management and evaluation of scientific research of the council apart from generation of various reports at different levels. System has inbuilt mechanism to connect to Online APAR (SPARROW), PMS and KRISHI portal of ICAR to assist scientists to fill in their achievements conveniently.

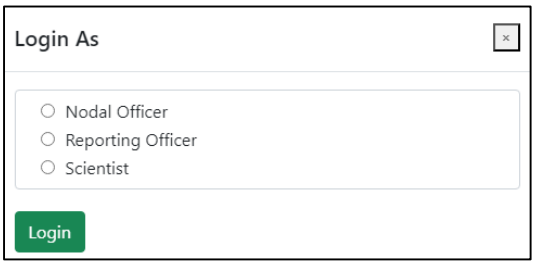
All scientists of ICAR would need to enter the information into the system only once, this would save the scientist from the hassle to provide information multiple times for different reporting requirements. System will have provision to provide information in various report formats (Progress report of Division/ Institute/ SMD/ Annual report material of Institute). In future, information generated from this system will also be linked with different dashboards of Government of India.

2. How to Access ARMS 2.0

You can Login with **ICAR email address** i.e. user@icar.gov.in and password **same as email's password.**



After giving correct email address and password the following window appears:



You need to **Choose Role** from the list of displayed roles to login:

(i) Nodal Officer
(ii) Scientist
(iii) Reporting Officer
(iv) Reviewing Officer
(v) ADG
(vi) DDG
(vii) DG

3. NODAL OFFICER (Login as Nodal Officer)

In Nodal Officer login the following are the options available:

- Assign
- Project Approval
- Approved Project List
- Publication Approval

Fig. 1 – Options available in Nodal Officer login

3.1 Assign

Following are the options to be used for defining roles of individuals in ARMS and assigning their respective officers.

- Assign Role
- Assign Reporting Officer
- Assign Reviewing Officer

3.1.1 Assign Role

To assign any role to any individual, go to Assign→Assign Role→Select Scientist name to whom role is to be assigned→Current level (if any) in system will appear automatically→Select new level→Update

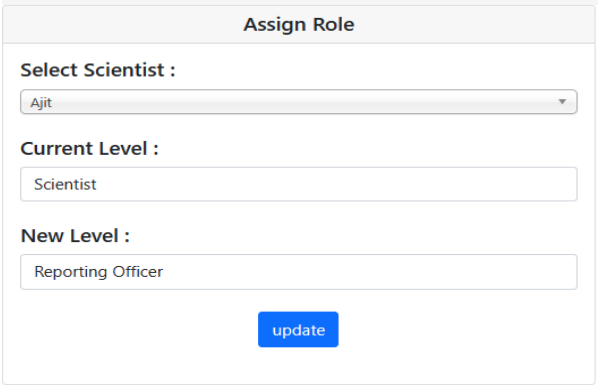


Fig. 2 – Assign Role to Individuals

3.1.2 Assign Reporting Officer

To assign reporting officer of the individual go to Assign Reporting Officer→Institute will come automatically →Select reporting officer name→ Select scientist name whose reporting officer is to be updated →Update

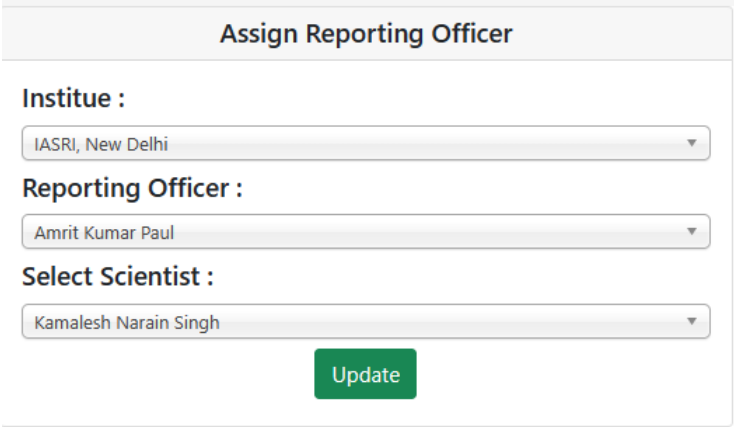


Fig 3. – Assign Reporting Officer

3.1.3 Assign Reviewing Officer

To assign reviewing officer of the individual go to Assign Reviewing Officer→Institute will come automatically →Select reviewing officer name→ Select scientist name whose reviewing officer is to be updated →Update

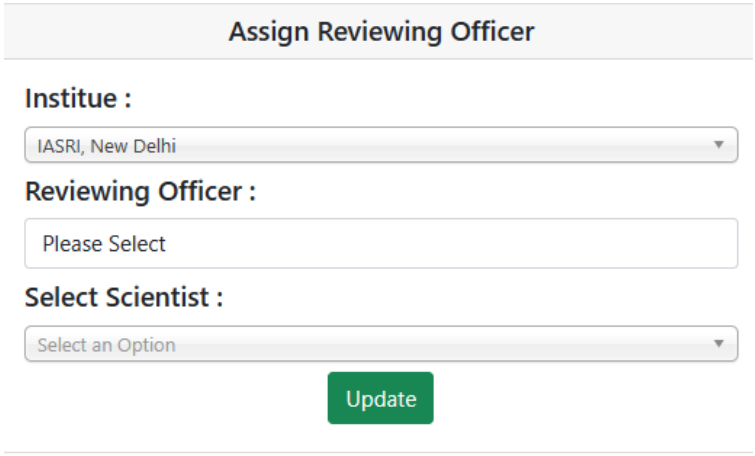


Fig 4. – Assign Reviewing Officer

3.2 Project Approval (As Nodal Officer)

Project(s) submitted by scientists will be listed here in Nodal Officer's login for approval. To approve the project, click on project name→Project details will open (see Fig. – 6, 7 and 8)

List of Projects Waiting for Approval

SNo	Project Code	Project Title	PI Name
1	083/S/DST	[redacted]	Dr. Shashi Bhushan Lal
2	083/S/IFX	[redacted]	Dr. Shashi Bhushan Lal
3	083/CI/DST	[redacted]	Dr. Shashi Bhushan Lal
4	083/CI/NAS	[redacted]	Dr. Mukesh Kumar
5	083/S/CPJ	[redacted]	Dr. Shashi Bhushan Lal
6	083/CIN/WBF	[redacted]	Dr. Shashi Bhushan Lal
7	083/CI/OXX	Artificial Intelligence enabled Biotic & Abiotic Stress Detection and Advisory Mobile Application for Crops	Dr. Shashi Bhushan Lal

Fig 5. – Project List pending for approval

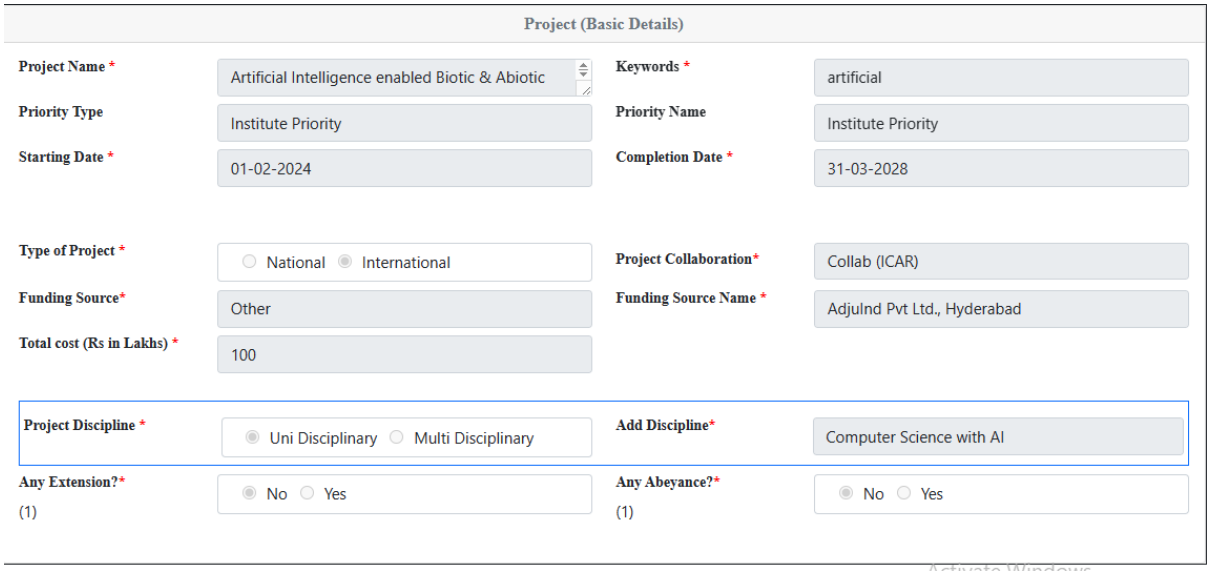


Fig 6. – Project details submitted by scientist

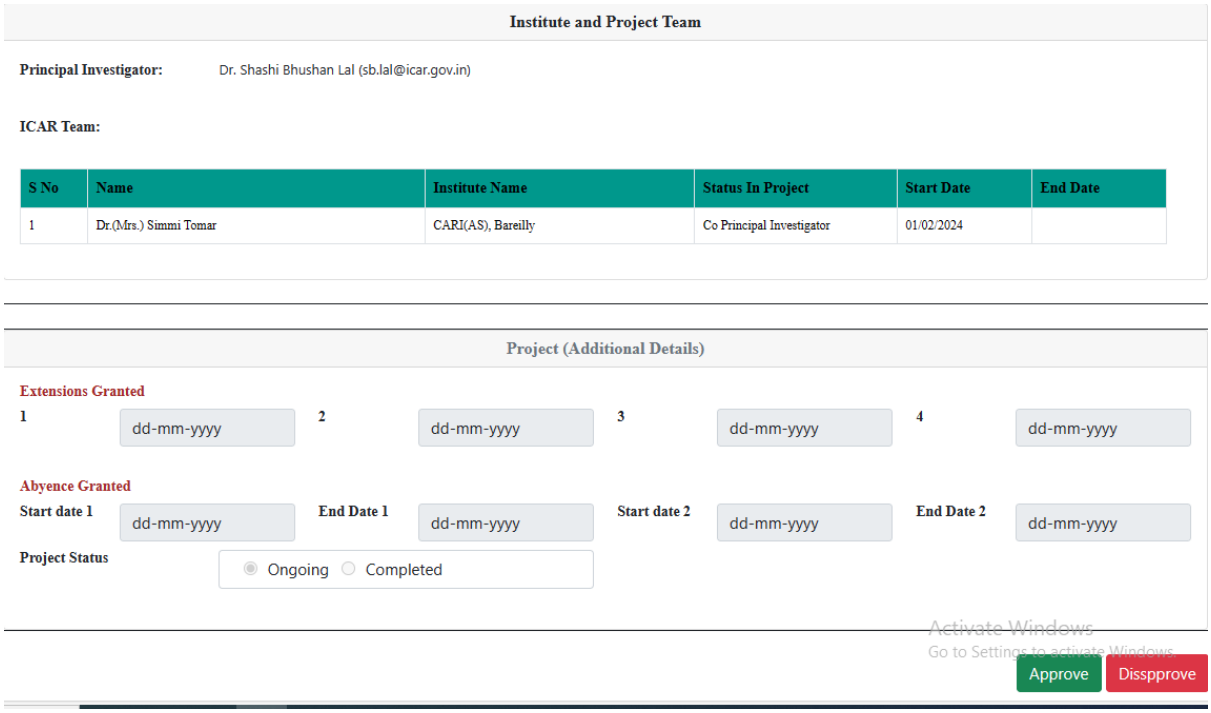


Fig 7. – Project details submitted by scientist

To approve the project, click on Approve and enter Approval Code→Send Back to PI

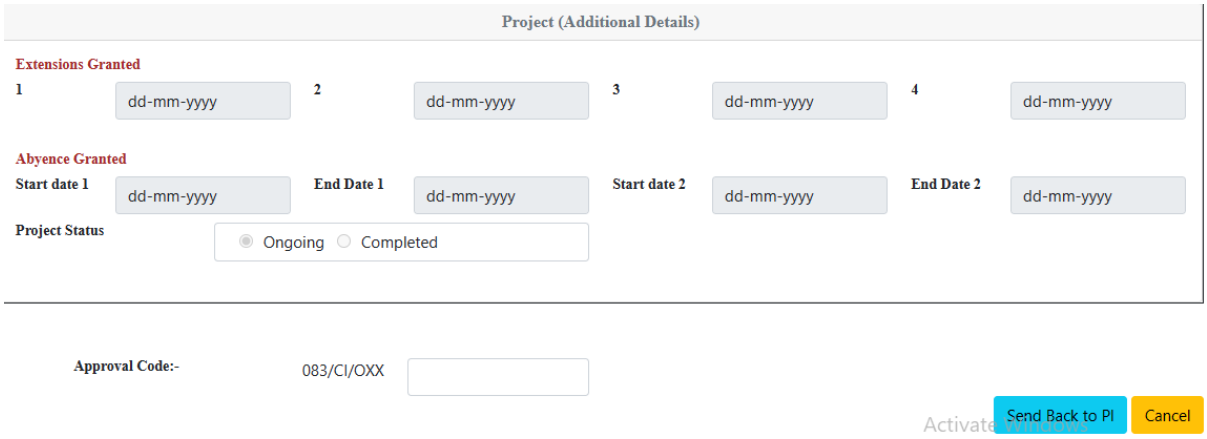


Fig 8. – Approve project with approval code

In case of disapproval of project, click on Disapprove→Enter reason of disapproval→Send Back to PI

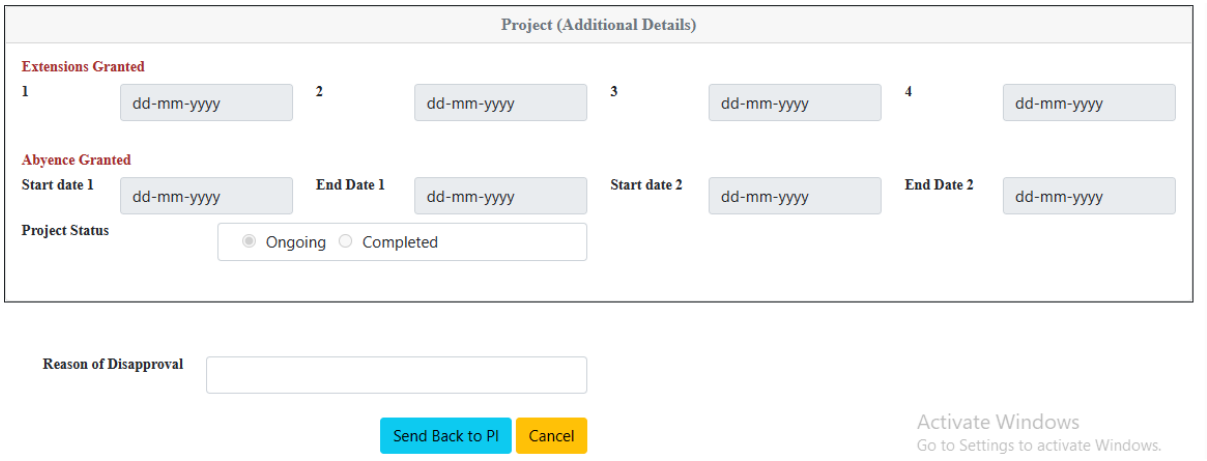


Fig 9. – Disapprove project with reason

3.3 Approved Project List

List of all the approved projects will appear here. Editing option is also available here, if needed.

Click on project name→Edit (see Fig. 11) desired details of project→Update (See Fig. - 12)

List of Approved Projects

SNo	Project Code	Project Title	PI Name
1	083/S/NAS/1	[redacted]	Mr. Sanjeev Kumar
2	083/CNI/IPP/pme2/1	[redacted]	Mr. Sanjeev Kumar
3	083/CIN/OXX/PME1	[redacted]	Dr. Shashi Bhushan Lal
4	083/CNI/IPP/approved	Development of novel Strategy for the detection and tackling of Antimicrobial resistant (AMR) Mastitis pathogens in dairy animals and environment using nanotechnology	Dr. Shashi Bhushan Lal
5	083/CI/DBT/we4t567u	[redacted]	Dr. Shashi Bhushan Lal
6	083/CI/OXX/676767	[redacted]	Dr. Shashi Bhushan Lal

Fig. 10 – List of approved projects

Project (Basic Details) Code:-083/CNI/IPP/approved

Project Name *	Development of novel Strategy for the	**Keywords** *	nano technology, antimicrobial
Priority Type	Institute Priority	**Priority Name**	Institute Priority
Starting Date *	28-02-2024	**Completion Date** *	31-03-2024
Type of Project *	National International	**Project Collaboration***	Collab (Lead Non ICAR + ICAR)
Funding Source*	Institute Plan Project		
Project Discipline *	Uni Disciplinary Multi Disciplinary	**Add Discipline***	Select One Option
Selected Disciplines	Veterinary Pathology		
Any Extension? (1)	No Yes	**Any Abeyance?** (1)	No Yes

Edit

Activate Windows

Fig. 11 – Edit project details

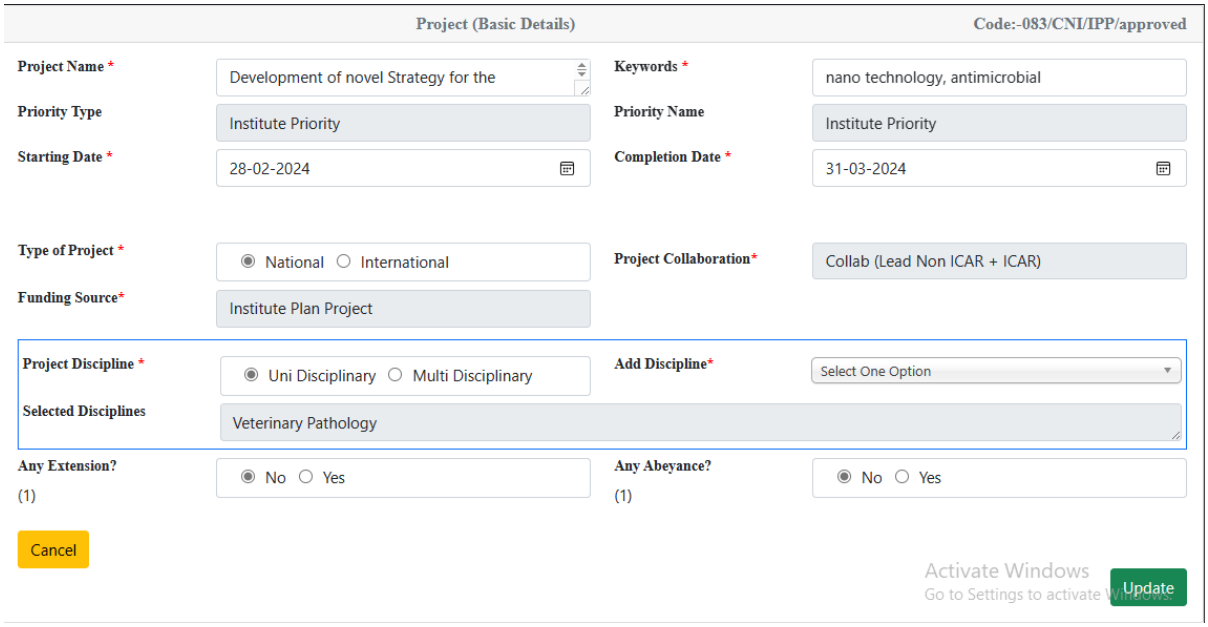
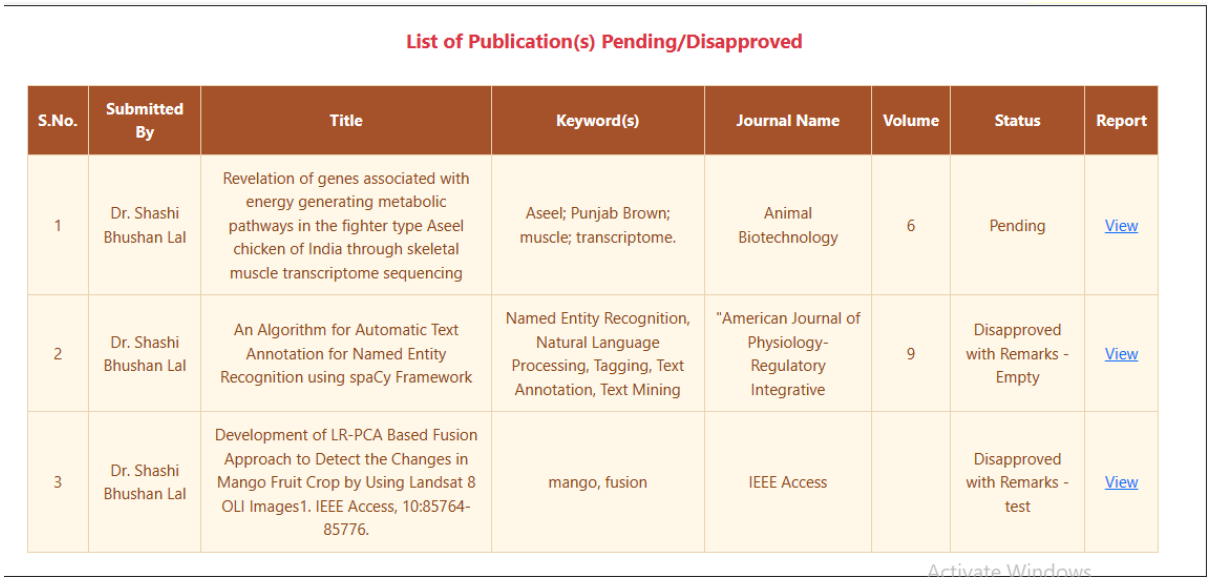


Fig. 12 – Update project details

3.4 Publication Approval (As Nodal Officer)

List of all publications submitted to Nodal officer is available here. It is represented in two tables.

- List of Publication(s) Pending/Disapproved
- List of Publication(s) Approved



List of Publication(s) Pending/Disapproved

S.No.	Submitted By	Title	Keyword(s)	Journal Name	Volume	Status	Report
1	Dr. Shashi Bhushan Lal	Revelation of genes associated with energy generating metabolic pathways in the fighter type Aseel chicken of India through skeletal muscle transcriptome sequencing	Aseel; Punjab Brown; muscle; transcriptome.	Animal Biotechnology	6	Pending	View
2	Dr. Shashi Bhushan Lal	An Algorithm for Automatic Text Annotation for Named Entity Recognition using spaCy Framework	Named Entity Recognition, Natural Language Processing, Tagging, Text Annotation, Text Mining	"American Journal of Physiology-Regulatory Integrative	9	Disapproved with Remarks - Empty	View
3	Dr. Shashi Bhushan Lal	Development of LR-PCA Based Fusion Approach to Detect the Changes in Mango Fruit Crop by Using Landsat 8 OLI Images1. IEEE Access, 10:85764-85776.	mango, fusion	IEEE Access		Disapproved with Remarks - test	View

Fig. 13 – List of publications disapproved and pending for approval

Click on View as seen in Fig. 13, details of publication received will open (see Fig. 14). It is in editable form. Nodal officer will update the same if required before approval.

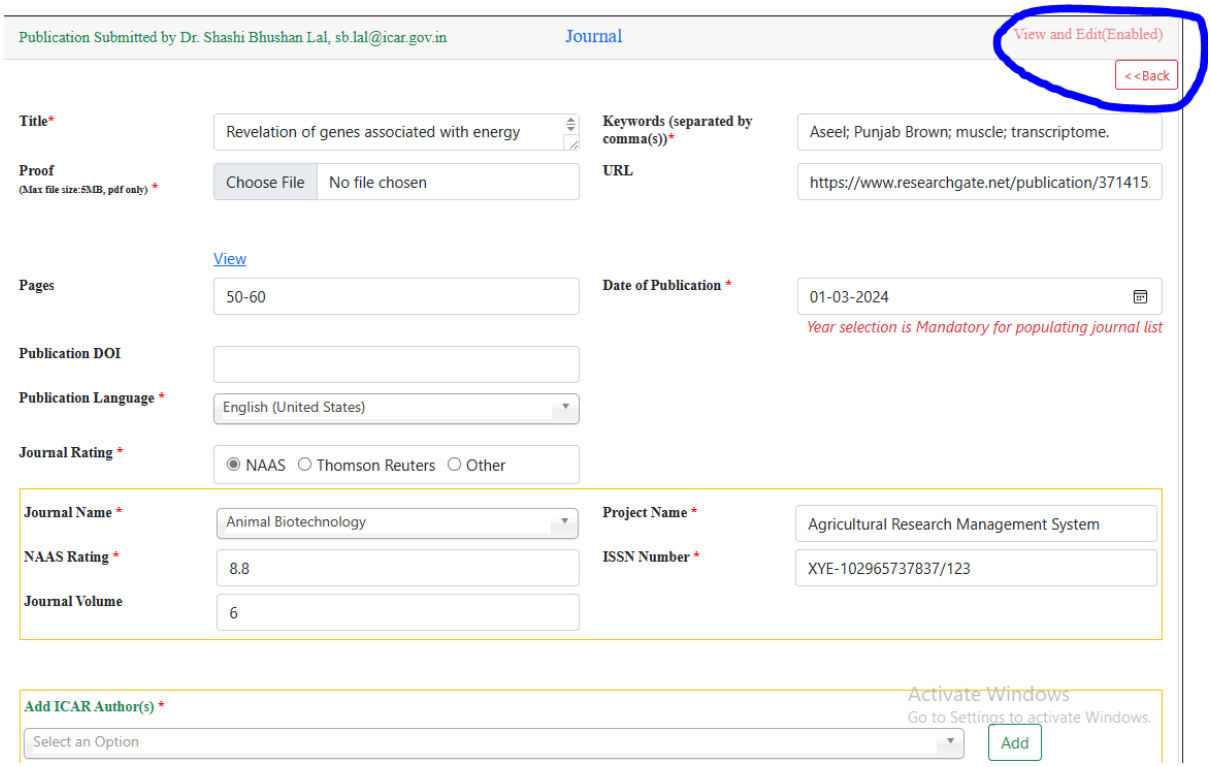


Fig. 14 – Details of publication submitted by scientist

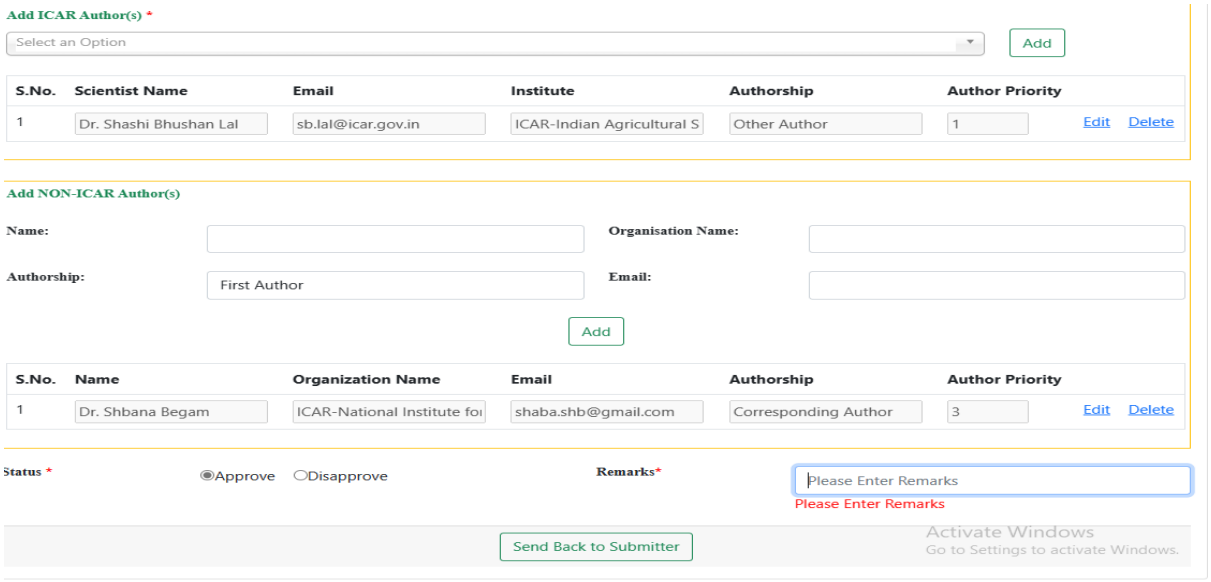


Fig. 15 – Approve/Disapprove publication with remarks

Please note that as Nodal Officer you need to see the uploaded proof by the uploader scientists and verify that the information about the publication entered is correct which includes title, author names, doi, keywords, pages, volume, issue and so on.

Approval or disapproval needs to be based on the publication information entered is correct. Disapproval or Approval can be done with remarks (see Fig. 15).

The publication approved cannot be edited. It can only be viewed or deleted (see Fig. 16).

List of Publication(s) Approved

S.No.	Submitted By	Title	Keyword(s)	Journal Name	Volume	Status	Report	
1	Dr. Shashi Bhushan Lal	An advanced approach for predicting selective sweep in the genomic regions using machine learning techniques	Selective sweep, Hard selective sweep · Soft selective sweep · Simulation · Machine learning · Random forest	Genetic Resources and Crop Evolution	01879	Approved with Remarks - Empty	View	Delete
2	Dr. Shashi Bhushan Lal	An advanced approach for predicting selective sweep in the genomic regions using machine learning techniques	Selective sweep, Hard selective sweep, Soft selective sweep, Simulation, Machine learning, Random forest	Genetic Resources and Crop Evolution		Approved with Remarks - Empty	View	Delete
3	Dr. Shashi Bhushan Lal	Evaluating Text Preprocessing Methods for Discovering Quality Topics to Improve the Information Retrieval Mechanism	Topic Model; Hyperparameters, Topic Discovery, Latent Dirichlet Allocation (LDA), Grid Search		5	Approved with Remarks - Empty	View	Delete

Fig. 16 – List of approved publications

4. SCIENTIST (Login as Scientist)

In scientist login following options are available for entering the achievements:

- Research projects (Add, Update, Completed)
- Technology (Import from KRISHI)
- IPR (Copyright and Patent)
- Publication (Journal and Books)
- Capacity Building (Program Organized/ Attended)
- Awards (National and International)

4.1 Research projects

The PI of the project will add project in ARMS. The person entering the project is taken as PI of the project by default in system. Project will be visible in login of each co-member.

The project can be of following types:

- Solo
- Collab (ICAR)
- Collab (Lead ICAR + Non ICAR)
- Collab (Lead Non ICAR + ICAR)

4.1.1 Add

Go to Project→Add→Enter basic Project details and Save (see Fig.17)

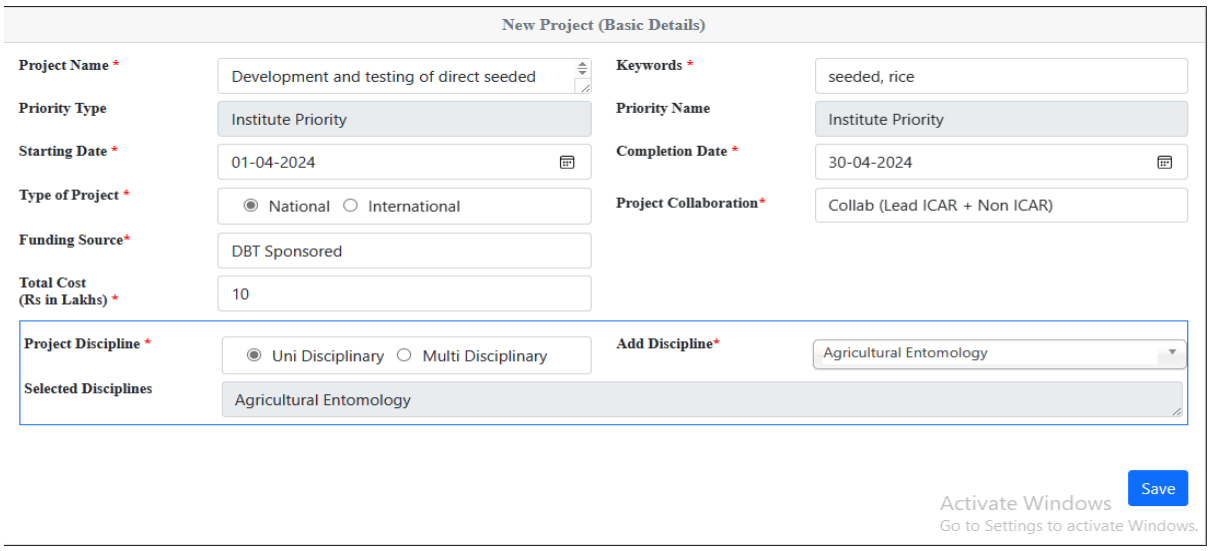


Fig. 17 – Basic details of project

Enter the details of project members→Save and Preview (see Fig. 18)

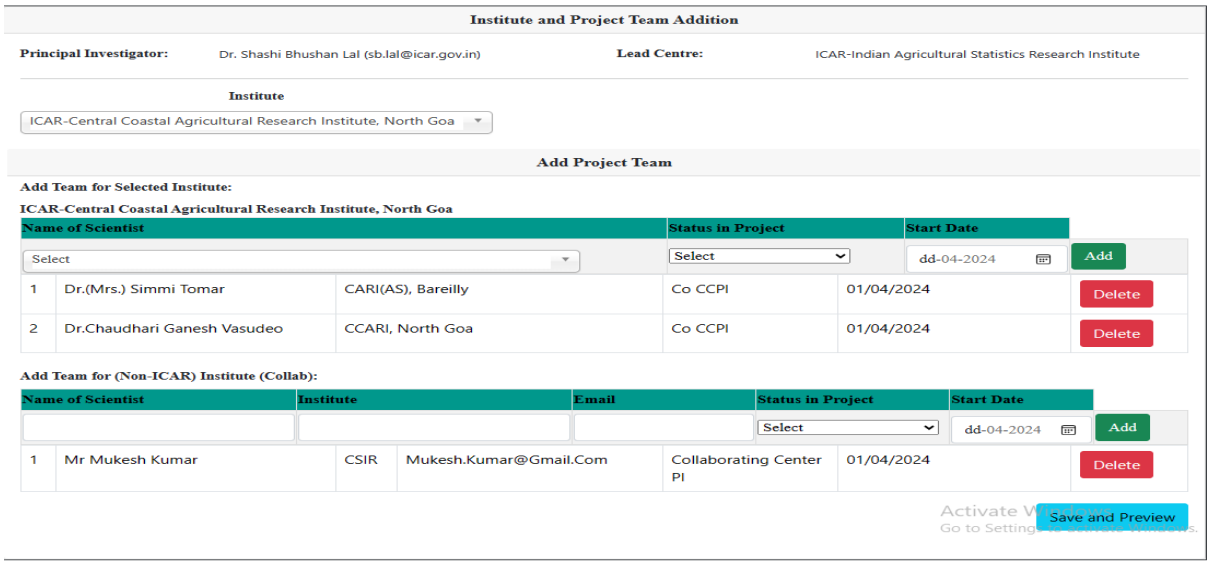


Fig. 18 – Details of project members

The details can be edited if required before sending to nodal officer for approval. Click on Edit (see Fig. 19)→Update information→Send to Nodal Officer

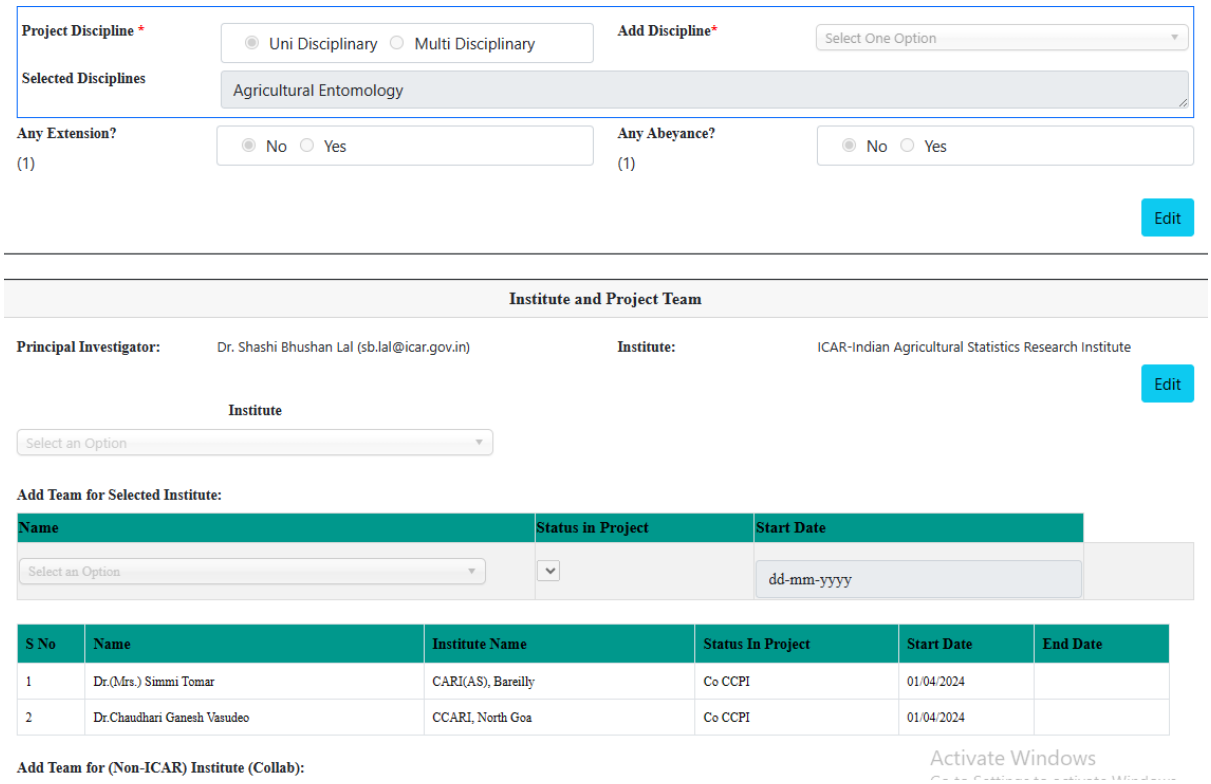


Fig. 19 – Edit the project details

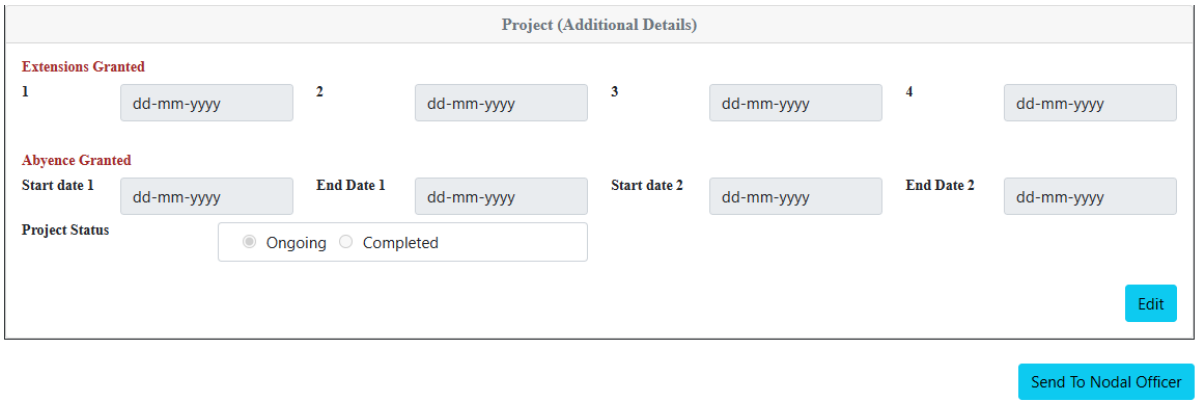


Fig. 20 – Send project to nodal officer for approval

4.1.2 Update

List of projects generated will be available here. PI of the project can view project details and edit the same.

Co-members can only view the details but not edit it.

Click on the project name to open.

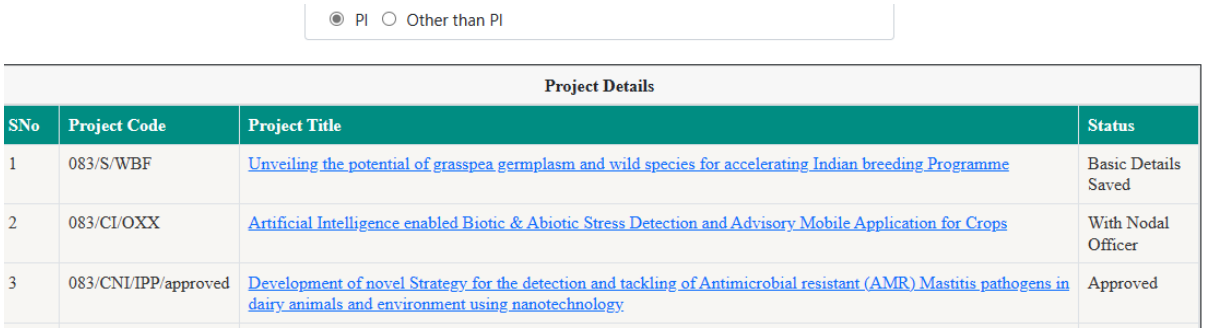


Fig. 21 – List of project(s) generated with its status

4.1.3 Completed Projects

List of completed project(s) will be available here. Click on project name to view details.

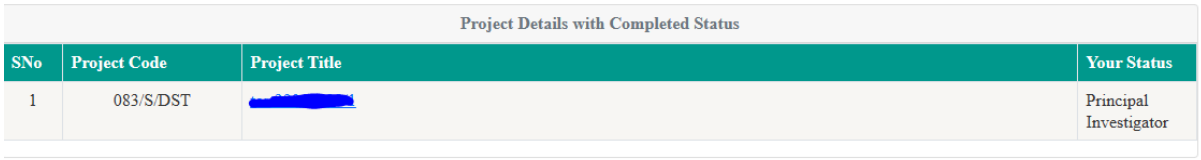


Fig. 22 – List of completed project(s)

4.2 Technology

Two options are given under technology as following:

4.2.1 New

The scientist will be able to import technology from KRISHI portal. Click on 'Click to Import Technology from Krishi Portal'→Select the technology to be imported as in Fig. 23 and 24 respectively

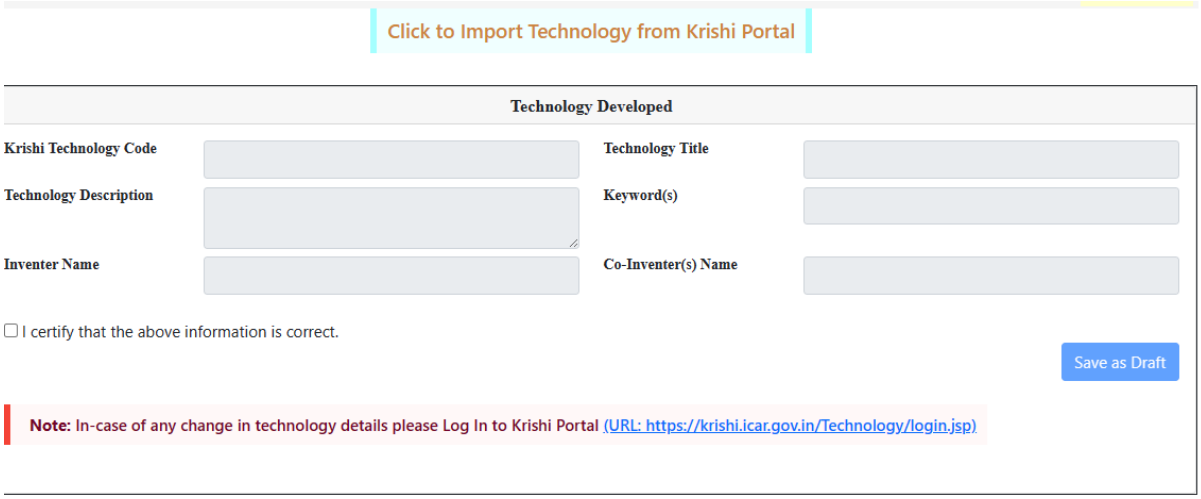


Fig. 23 - Click to import technology from Krishi Portal

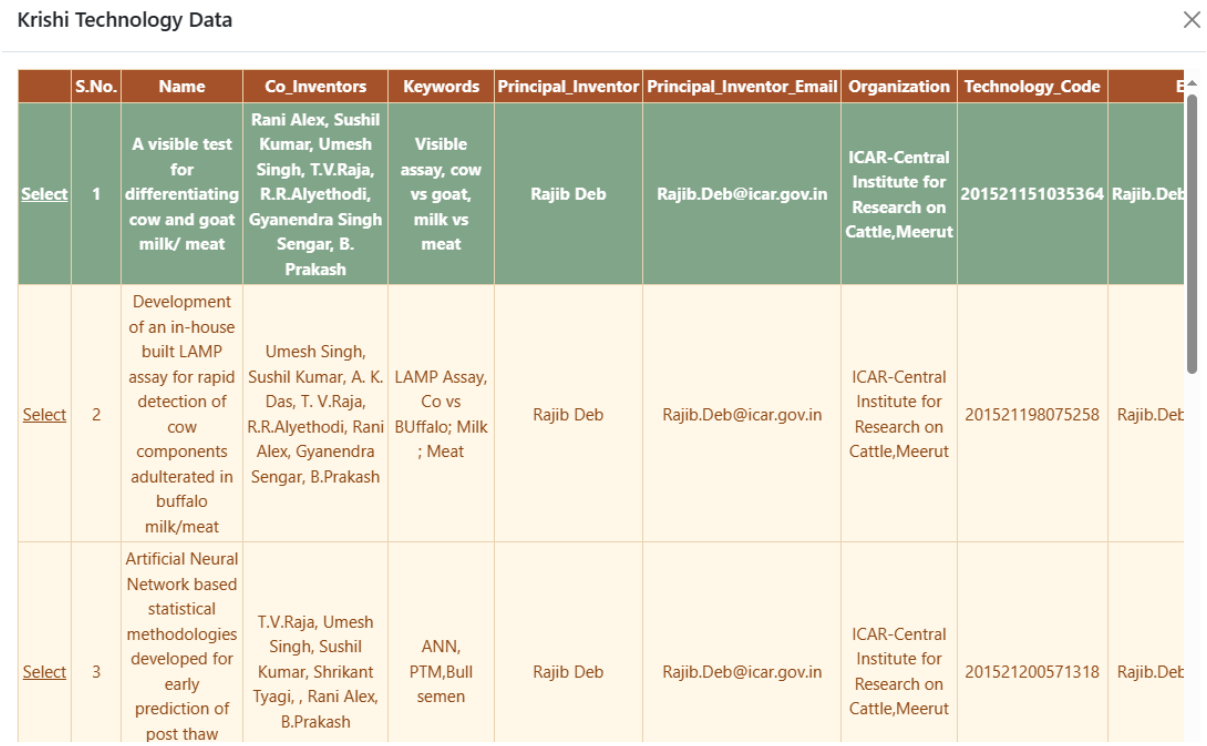


Fig. 24 – List of technology saved in Krishi Portal

The selected technology will open up, click on ‘Save as Draft’ and the technology will be added and displayed in the list below as in Fig. 25.

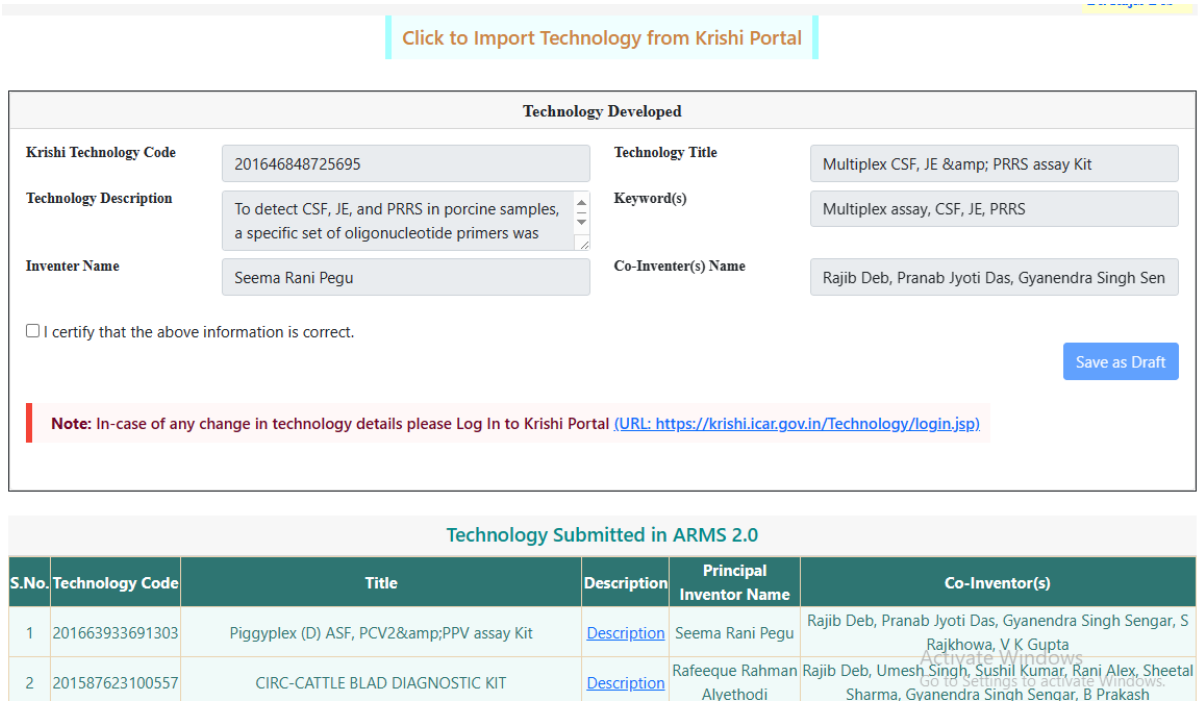


Fig. 25 – List of technology imported from Krishi Portal

4.2.2 IPR

Information copyright or IPR can be added under this option. Fill in the desired details. The PI can directly send it for approval or save as draft to send to reporting officer later (Fig. 26)

The IPR saved is displayed on the same page.

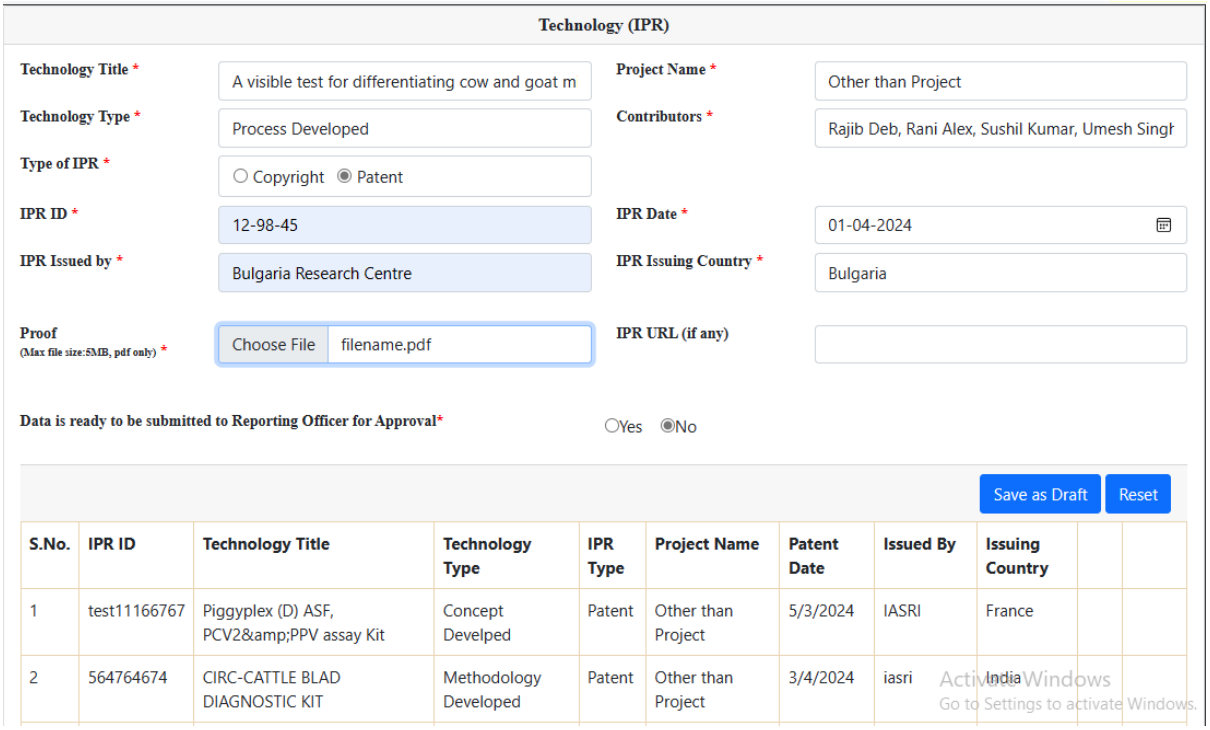


Fig. 26 – Filling an IPR

4.3 Publication

Option to add journal paper or a book has been given under publication.

4.3.1 Journal Paper

Go to Publication→Journal Paper→Enter basic publication details (see Fig. 27)→Add authors→Edit Authorship (see Fig. 28)→Save as Draft

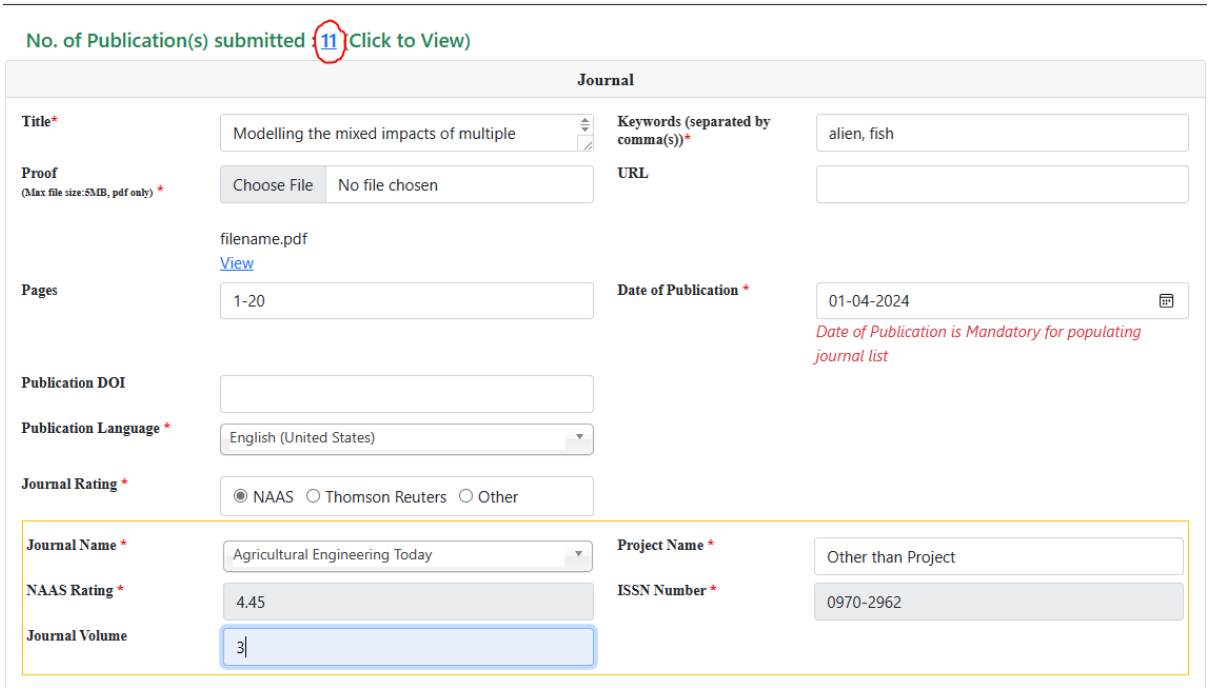


Fig. 27 – Basic details of publication

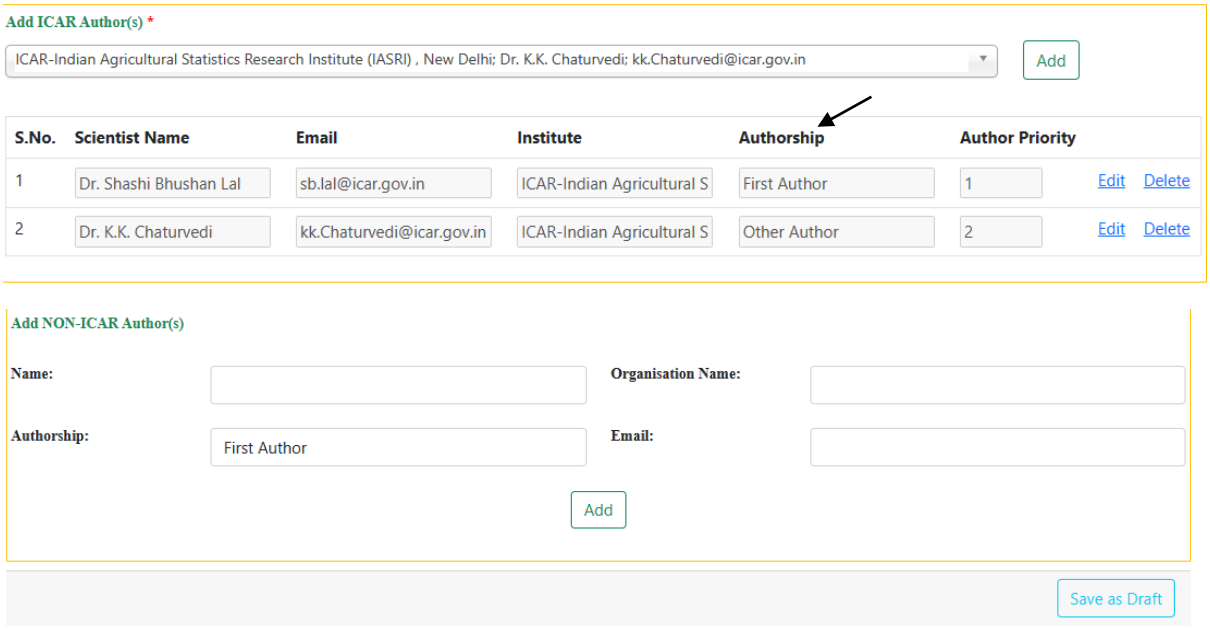


Fig. 28 – Save publication as draft

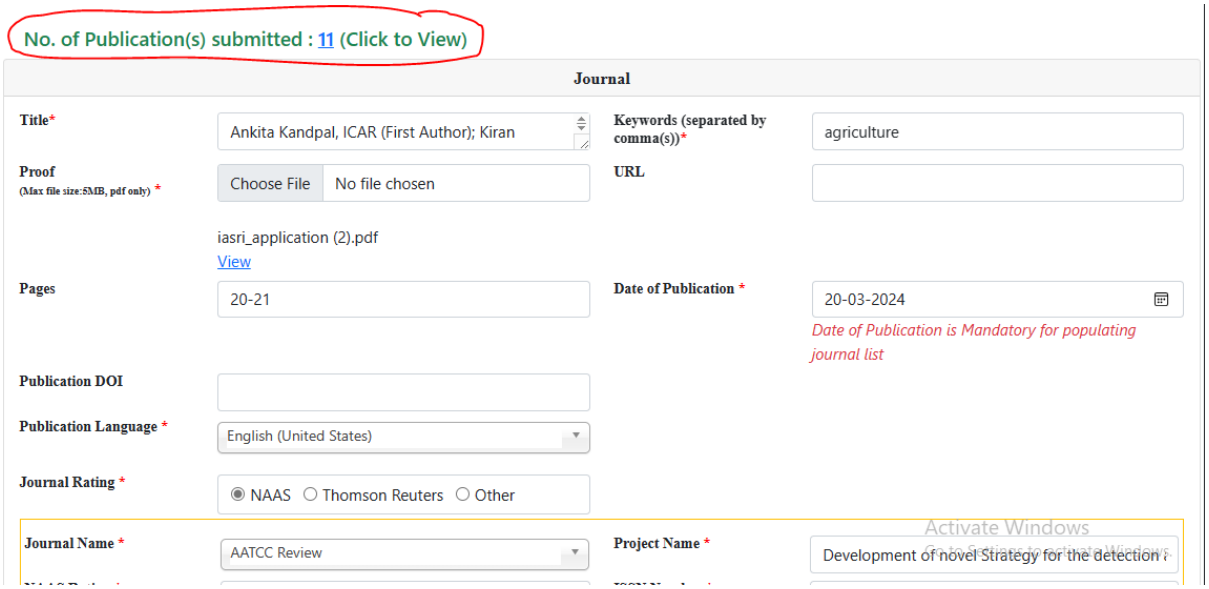


Fig. 29 – Total number of publication(s) entered

As highlighted in Fig. 29, total number of publication(s) entered can be seen with its status. Click to open the list, select the publication to send for approval (see Fig. 30).

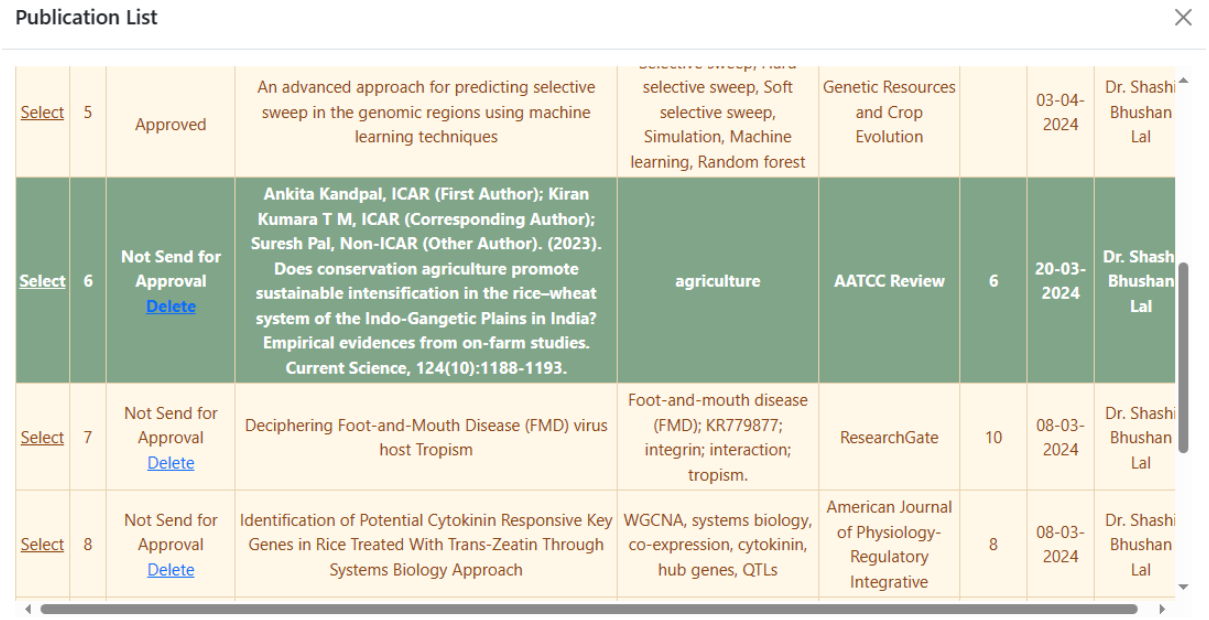


Fig. 30 – List of publication(s) entered with its status

4.3.2 Books

To enter information of book authored or edited, go to Publication→Books

Enter required details and Save.

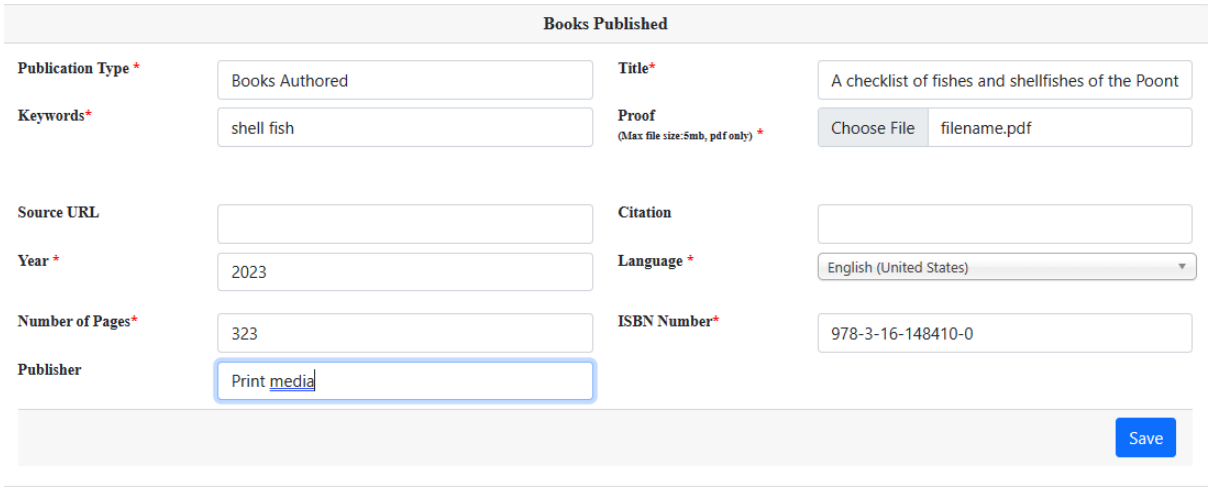


Fig. 31 – Entering details of book

4.4 Capacity Building

Capacity building is divided into three parts:

- Programme organized

- Programme attended

- Teaching, further divided into ‘Course Taught’ and ‘Student Guided’.

4.4.1 Programme Organised

To enter the details, go to Capacity Building→Programme Organised

Enter the details (as in Fig. 32) and Save.

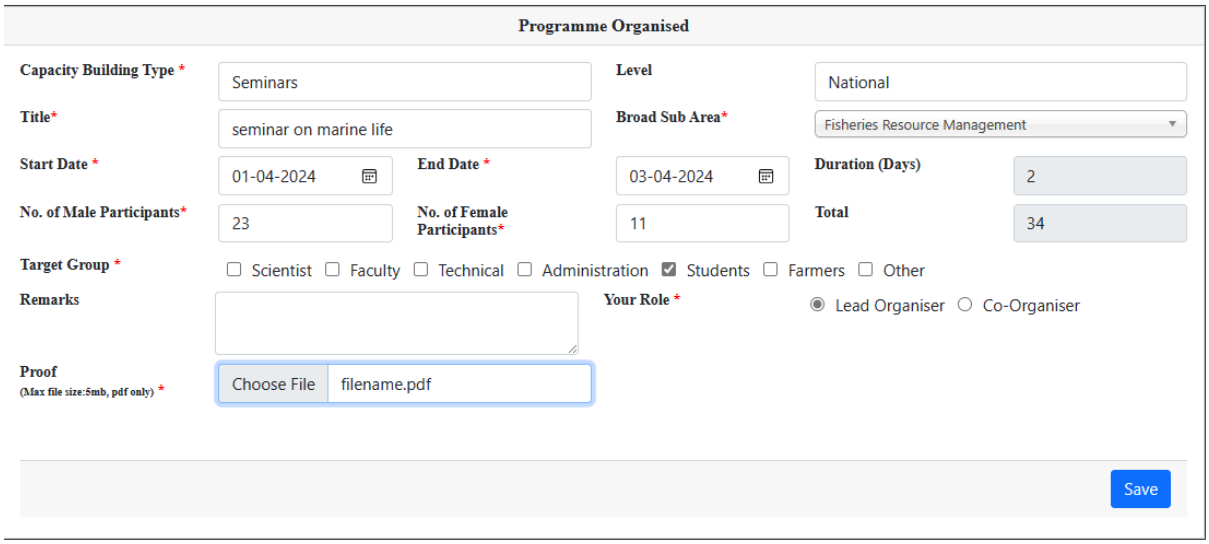


Fig. 32 – Details of programme organised

After that enter the details of other ICAR or Non ICAR organisers and Submit (see Fig. 33).

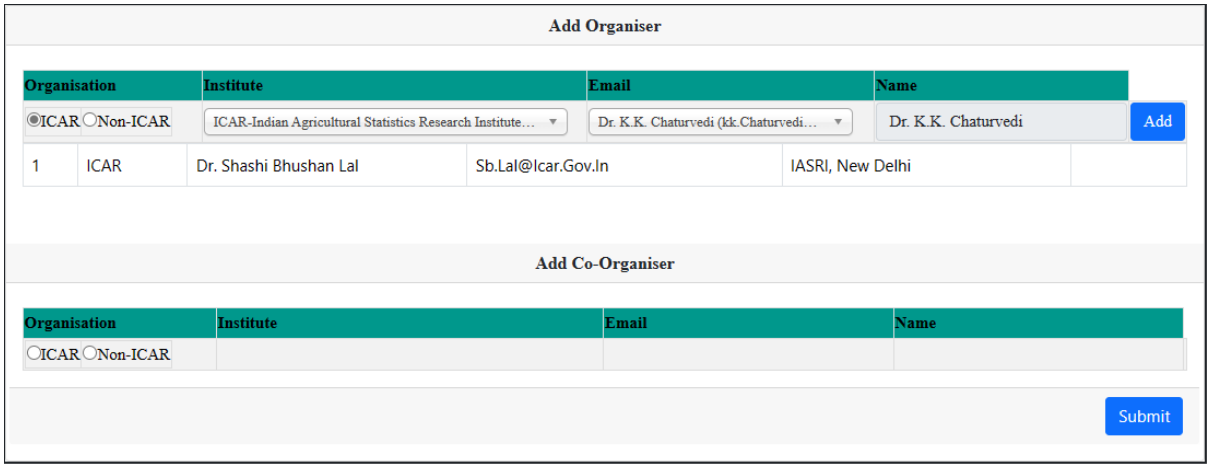


Fig. 33 – Addition of co-organisers

Capacity Building Type	Title	Start Date	End Date	Document Proof	Role	Submission Status		
Seminars	seminar on marine life	01/04/2024	03/04/2024	View	Lead Organiser	Yes	Update	Delete

Fig. 34 – List of programme submitted

4.4.2 Programme Attended

To enter the details go to Capacity Building→Programme Attended

Enter the details and submit or save as draft (Fig. 35)

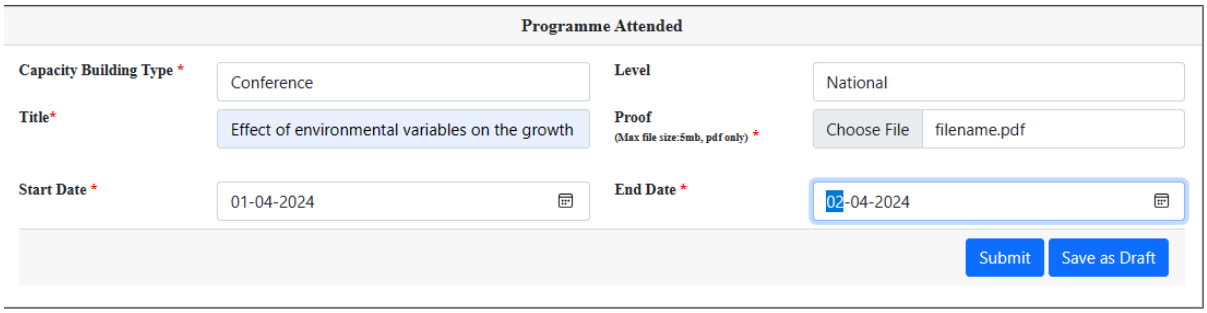


Fig. 35 – Details of programme attended.

Capacity Building Type	Activity Name	Start Date	End Date	Document Proof		
Conference	Effect of environmental variables on the growth of Asian green mussel, Perna viridis, in two different aquaculture systems in Goa, west coast of India.	01/04/2024	02/04/2024	View	Update	Delete
Seminars	marine life	01/04/2024	02/04/2024	View	Update	Delete
Conference	Exploring the ecosystem health of a tropical Indian estuary using mass-balanced ecosystem model.	01/04/2024	02/04/2024	View	Update	Delete

Fig. 36 – List of programme attended

4.4.3 Teaching

Under teaching, following two options are given:

4.4.3.1 Course Taught

Go to Capacity Building→Teaching→Course Taught

Enter the details and Save as per Fig. 37

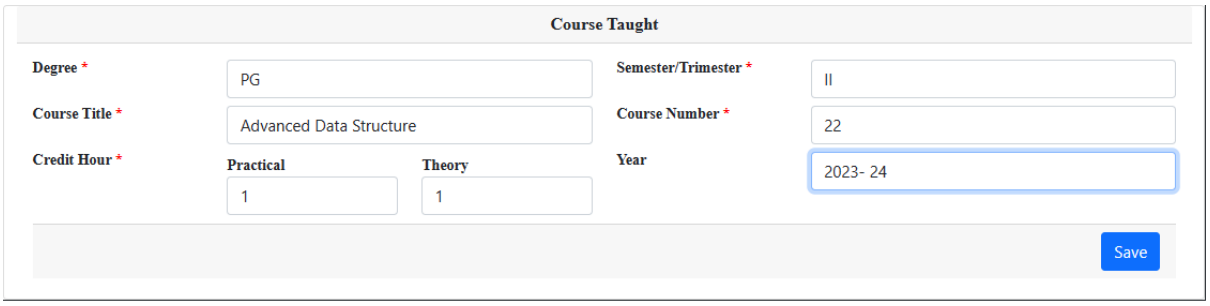
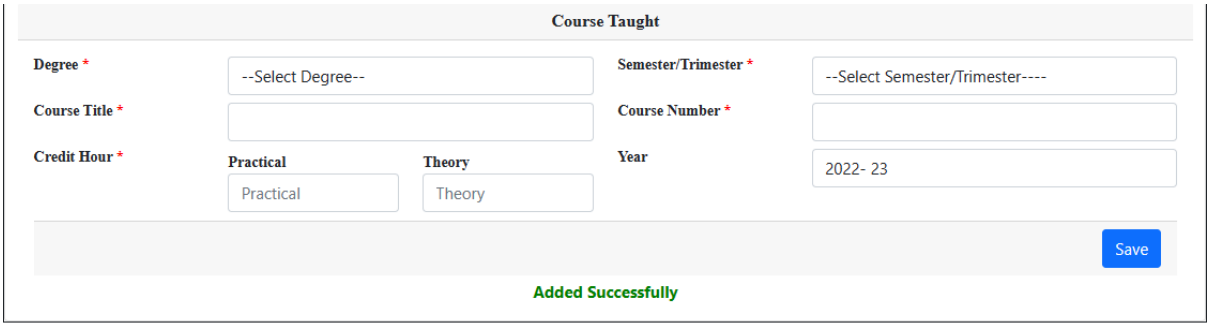


Fig. 37 – Details of course taught

The course added can later be edited and send to reporting officer for approval.



S. No	Degree	Course title	Credit hour(P+T)	Semester	Course Number	Year		
1	PG	software engineering	2 + 2	II	24	2022-23	Update	Delete
2	PG	Advanced Data Structure	1 + 1	II	22	2023-24	Update	Delete

Fig. 38 – Course added is displayed in the list.

4.4.3.2 Student Guided

Go to Capacity Building→Teaching→Student Guided

Enter the details and Save as per Fig. 39

The information added can later be edited and send to reporting officer for approval.

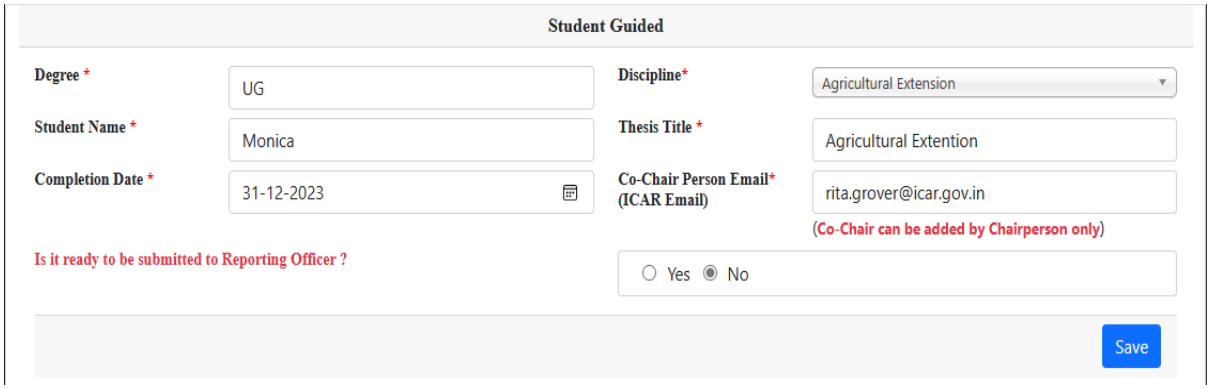


Fig. 39 – Details of Student Guided

4.5 Awards

The information of awards will be updated here. Enter the details and submit to reporting officer or save to view and edit later.

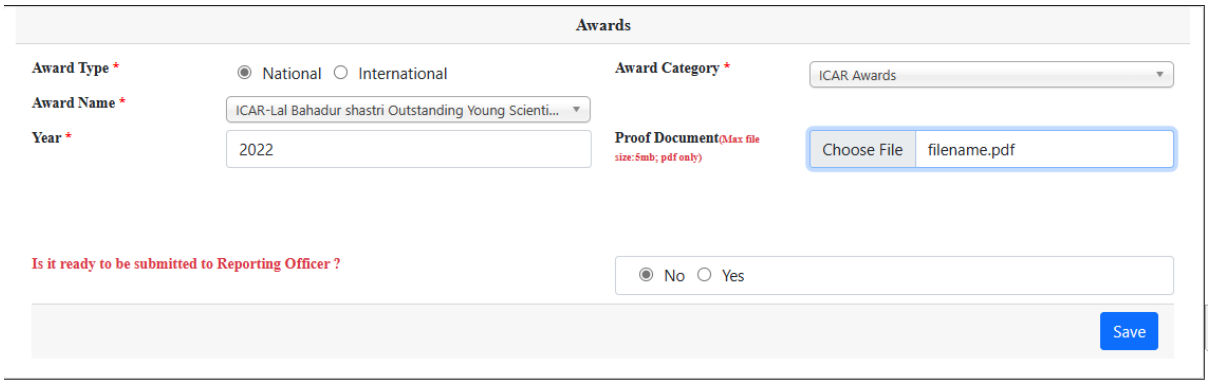


Fig. 40 – Details of award